

SEMICONDUCTOR DEVICE AND MANUFACTURE THEREOF**Publication number:** JP2303048**Publication date:** 1990-12-17**Inventor:** SHINOHARA TOSHIAKI**Applicant:** NISSAN MOTOR**Classification:**

- international: **H01L21/762; H01L21/306; H01L21/76; H01L21/70; H01L21/02; (IPC1-7): H01L21/76**

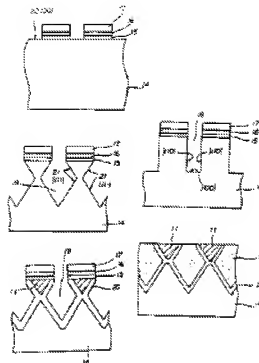
- European:

Application number: JP19890124673 19890518**Priority number(s):** JP19890124673 19890518

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Abstract of JP2303048

PURPOSE: To obtain an island having a large area with highly efficient yield at a low cost by allowing a semiconductor island that is formed on an Si substrate to be composed of faces, i.e., {100} or {110}, and {111} which are formed in the direction of <110>. **CONSTITUTION:** A three-layer mask consisting of an SiO₂ film 15, an Si₃N₄ film 16, and an SiO₂ film 17 is formed in the direction of <110> on the face {110} of an Si substrate 14. A groove 18 is formed by RIE. The substrate is treated with an anisotropic etching by using a KOH liquid and a groove 19 that is surrounded with a face {111} is made up. Further, its groove is covered with an SiO₂ film 20 after it is treated with thermal oxidation and it is isolated completely from the outside to make up Si islands 11. Finally, its etched groove 19 is filled with poly-Si and SiO₂ and the like to form isolation regions 12. The Si substrate is completed by leveling the surface.

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